

UNITED STATES DEPARTMENT OF AGRICULTURE
FOOD SAFETY AND INSPECTION SERVICE
WASHINGTON, DC

FSIS NOTICE

01-13

1/8/13

INSTRUCTIONS FOR VERIFICATION OF IMPROVEST® HOGS

I. PURPOSE

This notice instructs inspection program personnel (IPP) to use the Improvest® quality assurance certificate as documentation to determine whether hogs processed under the Improvest® program are classified as barrows. If intact male hogs are presented for slaughter without a Quality Assurance Certificate, IPP will address these animals as intact boars.

II. BACKGROUND

A. **IMPROVEST®** (*gonadotropin releasing factor analog--diphtheria toxoid conjugate*), is a Food and Drug Administration (FDA)-approved pre-slaughter treatment given to growing intact male pigs for the temporary immunological castration (IC) (suppression of testicular function) and reduction of boar taint in intact male pigs intended for pork. It is the only product of this type approved in the US for pigs. It is a protein compound that uses the pig's own immune system to provide the same effect as surgical castration, but Improvest® is administered much later in the pig's life than surgical castration. Both immunological and surgical castration reduces boar taint (an unpleasant aroma or taste that can occur in cooked pork from some male pigs). Immunological castration temporarily blocks the biological cascade that leads to the development of androstenone and skatole, which are the substances responsible for causing boar taint. Immunological castration is distinctly different from chemical castration and should NOT be confused with or referred to as chemical castration.

B. When IC barrows are delivered for slaughter under the Improvest® program, there needs to be coordination among the establishment procurement employees, establishment operations, and IPP in the establishment. Although communication will be among establishment procurement, establishment management, and the IPP, the Office of Policy and Program Development (OPPD), Policy Development Division (PDD) is available for consultation and technical guidance, if needed.

C. There are at least three differences that can be observed on ante-mortem between IC barrows and mature boars. These include but are not limited to: 1) Reduction in aggressive, sexual behavior compared to mature boars; 2) Visual differences in the relative size of testes (reduced in the IC barrows); and 3) Color of the scrotum (IC barrows will typically not have reddened scrotums). There are other indicators that are covered in additional information (see Section II.G).

D. To qualify as slaughter barrows, IC barrows should be delivered for slaughter to an establishment with a Quality Assurance Certificate (see Figure 1). This document certifies that animals have received **IMPROVEST®** in compliance with the FDA approved label and have been inspected for animal behavior and visual appearance on the farm to fully qualify as IC barrows before being loaded and delivered to the slaughter establishment. If intact male hogs are delivered for slaughter without a Quality Assurance Certificate, IPP are to address these animals as intact boars (see Section III.B).

DISTRIBUTION: Electronic

NOTICE EXPIRES: 1/1/14

OPI: OPPD

Figure 1: Example of an Improvest® Quality Assurance Certificate



E. The manufacturer of **IMPROVEST®** has applied for a USDA, Agriculture Marketing Service (AMS) Process Verified Program for the **IMPROVEST®** Quality Management System for the Quality Assurance (QA) certification program. This program is pending approval.

F. The prepuce pouch (or sheath) of any male pig's reproductive tract can trap urine, bacteria, and semen, giving it a pungent smell. The pungent odors from the prepuce pouch should NOT be confused with boar taint in pork fat that can only be detected by individuals sensitive to androstenone or skatole once fat is sufficiently heated. Different than the prepuce pouch pungent smell, the sources of boar taint are primarily two substances in the fat tissue, androstenone (produced by the testicles) and skatole (a byproduct of tryptophan metabolism in the pig's large intestine), that begin to accumulate as the male pig matures. As part of sanitary dressing, it is important when removing the prepuce pouch during the slaughter process that it is not punctured or cut as it can spill the contents of the pouch and contaminate the carcass and emit an unpleasant odor.

G. For additional information on **IMPROVEST®** access the PowerPoint presentation "[Preview of FSIS Requirements Associated with Slaughter of Immunologically Castrated "Barrows"](#) and **IMPROVEST® FAQs** via askFSIS.

III. FSIS PERSONNEL RESPONSIBILITIES

A. When the establishment presents the Quality Assurance Certificate before ante-mortem inspection, IPP are to classify the hogs as barrows. This classification alleviates questions about any biological variation in the testes or the secondary sex organs that may be observed at slaughter.

B. If intact male hogs are presented for slaughter, and there is no Quality Assurance Certificate, IPP will address these animals as intact boars, and the disposition will be made either under [9 CFR 311.37 \(c\)](#) or [9 CFR 311.20 \(a\) or \(b\)](#) to pass for food, pass for cooked comminuted food, or condemn as appropriate.

IV. DATA ANALYSIS

The PDD will review questions on the use of **IMPROVEST**® in hogs in askFSIS to determine effectiveness of policy instructions to IPP.

V. QUESTIONS

Refer questions regarding this notice to OPPD PDD through [AskFSIS](#) or by telephone at 1-800-233-3935. When submitting a question, use the Submit a Question tab, and enter the following information in the fields provided:

Subject Field: Enter **FSIS Notice 01-13 Instructions for Verification of Improvest Hogs**
Question Field: Enter your question with as much detail as possible.
Product Field: Select **General Inspection Policy** from the drop-down menu.
Category Field: Select **Slaughter** from the drop-down menu.
Policy Arena: Select **Domestic (U.S.) Only** from the drop-down menu.

When all fields are complete, press the **Submit** button.



Assistant Administrator
Office of Policy and Program Development